

APPENDIX F

A SELECTED COMPILATION OF TIDAL HYDRAULIC
MODEL INVESTIGATIONS

F-1. Introduction. This Appendix contains a selected compilation of tidal hydraulic model investigations that were conducted by the WES Hydraulics Laboratory (HL) and Coastal Engineering Research Center (CERC), for additional information and reference. The studies were selected from a much larger bibliography prepared by the USAE Committee on Tidal Hydraulics. The entries have been limited to those that are focused within and at the entrance of estuaries. Coastal design procedures and model investigations are included in other publications, such as: "Shore Protection Manual, 1984", in 2 volumes, by CERC, EM 1110-2-1614, "Design of Coastal Revetments, Seawalls, and Bulkheads" with Change 1, and EM 1110-2-2904, "Design of Breakwaters and Jetties."

F-2. The entries in this Appendix are separated into two main subdivisions:

- I. Hydraulic (or physical) Model Studies, and
- II. Numerical Model and Analytical Studies

The subdivisions were further organized by specific topics for ease of identification. The following prefixes are WES designations to describe the type of report:

- a. GITI = General Investigation of Tidal Inlets
- b. MP = Miscellaneous Paper
- c. SR = Special Report
- d. TM = Technical Memorandum
- e. TR = Technical Report

The following outline will also serve as an index to this Appendix.

F-3. Appendix F Outline and Index.

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F-4. Availability. Corps Personnel: Most of the reports are available in either USAE District or Division libraries. If the library does not have a particular report, the librarian should contact the WES Technical Library for availability as an inter-library loan. Many of these reports are available through the National Technical Information Service (or NTIS), and the librarian can contact them at 5285 Port Royal Road, Springfield, Va 22161, or via electronic mail if available. Non-Corps and non-government individuals seeking any of these references should contact their local or public library for possible inter-library loan, or write to the NTIS at the above address.

Hydraulic Model Studies
I. A. 1. Inlets and Jetties

| Number | Date | Title |
|------------|----------|--|
| TM 2-417 | Nov 1955 | Plans for the Improvement of Grays Harbor and Point Chehalis, Washington; Hydraulic Model Investigation |
| TR 2-690 | Aug 1965 | Plans for Reducing Shoaling, Southwest Pass, Mississippi River; Hydraulic Investigation, by H. B. Simmons and H. J. Rhodes |
| TR 2-735 | | Model Studies of Navigation Improvements, Columbia River Estuary: |
| | Dec 1968 | Report 1 Hydraulic and Salinity Verification, by F. A. Herrmann, Jr. |
| | | Report 2 Entrance Studies: |
| | Aug 1966 | Section 1 Fixed-Bed Studies of South Jetty Rehabilitation, by F. A. Herrmann, Jr., and H. B. Simmons |
| | Nov 1966 | Section 2 Fixed-Bed Studies of North Jetty Rehabilitation, by F. A. Herrmann, Jr., and H. B. Simmons |
| | Apr 1972 | Section 3 Fixed-Bed Studies of Disposal Areas C and D, by F. A. Herrmann, Jr. |
| | Jul 1974 | Section 4 Jetty A Rehabilitation, Jetty B, and Outer Bar Channel Relocation, by F. A. Herrmann, Jr. |
| | | Report 3 40-Ft Channel Studies: |
| | Feb 1971 | Section 1 Wauna-Lower Westport Bar, by F. A. Herrmann, Jr. |
| TR H-69-2 | Feb 1969 | Model Study of Galveston Harbor Entrance, Texas; Hydraulic Model Investigation, by H. B. Simmons and R. A. Boland |
| TR H-69-16 | Nov 1969 | Channel Improvement, Fire Inlet, New York; Hydraulic Model Investigation, by W. H. Bobb and R. A. Boland |

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| Number | Date | Title |
|------------|----------|---|
| TR H-72-2 | | Grays Harbor Estuary, Washington: |
| | Apr 1972 | Report 1 Verification and Base Tests; Hydraulic Model Investigation; by N. J. Brogdon, Jr. |
| | May 1973 | Appendix A Supplementary Base Test Data; Hydraulic Model Investigation, by N. J. Brogdon, Jr., and G. M. Fisackerly |
| | Sep 1972 | Report 2 North Jetty Study; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Sep 1972 | Report 3 Westport Small-Boat Basin Study; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Sep 1972 | Report 4 South Jetty Study; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Oct 1975 | Report 5 Maintenance Studies of 35-Ft.-Deep (MSL) Navigation Channel; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Apr 1976 | Report 6 45-Ft. MSL (40-Ft. MLLW) Navigation Channel Improvement Studies; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| TR H-74-1 | Mar 1974 | Navigation Channel Improvements, Barnegat Inlet, New Jersey; Hydraulic Model Investigation, by R. A. Sager and N. W. Hollyfield |
| TR H-76-4 | | Improvements for Masonboro Inlet, North Carolina; Hydraulic Model Investigation, by W. C. Seabergh |
| | Apr 1976 | Volume I |
| | Apr 1976 | Volume II |
| TR H-77-21 | Nov 1977 | Improvements for Little River Inlet, South Carolina; Hydraulic Model Investigation, by W. C. Seabergh and E. F. Lane |

| Number | Date | Title |
|-------------|-----------|---|
| TR H-78-4 | Apr 1978 | Improvements for Murrells Inlet, South Carolina; Hydraulic Model Investigation, by Maj. F. C. Perry, Jr., W. C. Seabergh, and E. F. Lane |
| TR HL-83-10 | June 1983 | Functional Design of Control Structures for Oregon Inlet, North Carolina; Hydraulic Model Investigation, by N. W. Hollyfield, J. W. McCoy, and W. C. Seabergh |
| | Mar 1985 | Errata Sheet No. 1 |
| TR HL-86-1 | Jan 1986 | Mississippi River Passes Physical Model Study; Report 2, Shoaling and Hydraulic Investigations in Southwest Pass; Hydraulic Model Investigation. By Howard A. Benson and Robert A. Boland |
| TR 2-711 | Jan 1966 | Matagorda Ship Channel Model Study, Matagorda Bay, Texas; Hydraulic Model Investigation, by H. J. Rhodes and H. B. Simmons |
| TR HL-88-16 | July 1988 | Advance Maintenance in Entrance Channels: Evaluation of Selected Projects; Hydraulic Model Investigation, by M. J. Trawle and J. A. Boyd |
| GITI 22 | Feb 1982 | Evaluation of Physical and Numerical Hydraulic Models, Masonboro Inlet, North Carolina, J. E. McTamany |
| TR HL-83-16 | | Columbia River Estuary Hybrid Model Studies |
| | Sep 1983 | Report 1 Verification of Hybrid Modeling of the Columbia River Mouth, by W. H. McAnally, Jr., N. J. Brogdon, J. V. Letter, Jr., J. P. Stewart, and W. A. Thomas (includes Appendixes A-C) |
| | Sep 1983 | Report 4 Entrance Channel Tests, by W. H. McAnally Jr., N. J. Brogdon, and J. P. Stewart |

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Hydraulic Model Studies
I. A. 2. Estuaries, Bays and Rivers

| Number | Date | Title |
|-------------|----------|---|
| TR 2-694 | Sep 1965 | Hudson River Channel, New York and New Jersey; Plans to Reduce Shoaling in Hudson River Channel and Adjacent Pier Slips, by H. B. Simmons and W. H. Bobb |
| TR H-70-6 | May 1970 | Estuary Entrance, Umpqua River, Oregon; Hydraulic Model Investigation, by G. M. Fisackerly |
| TR H-72-9 | Nov 1972 | Navigation Channel Improvement, Gastineau Channel, Alaska; Hydraulic Model Investigation, by F. A. Herrmann, Jr. |
| TR H-74-12 | Nov 1974 | San Diego Bay Model Study; Hydraulic Model Investigation, by G. M. Fisackerly |
| TR HL-81-14 | Dec 1981 | Verification of the Chesapeake Bay Model, by N. W. Scheffner, L. G. Crosby, D. F. Bastian, A. M. Chambers and M. A. Granat |
| TR HL-82-3 | Jan 1982 | Low Freshwater Inflow Study, Chesapeake Bay Hydraulic Model Investigation, by D. R. Richards and L. F. Gulbrandsen |
| TR HL-82-5 | Feb 1982 | Baltimore Harbor and Channels Deepening Study; Chesapeake Bay Hydraulic Model Investigation, by M. A. Granat and L. F. Gulbrandsen |
| TR HL-83-13 | Jun 1983 | Norfolk Harbor and Channels Deepening Study, Report 1, Physical Model Results, Chesapeake Bay Hydraulic Model Investigation, by D. R. Richards and M. R. Morton |
| TR HL-84-10 | Dec 1984 | Dimensions for Safe and Efficient Deep-Draft Navigation Channels; Hydraulic Model Investigation, by H. O. Turner, Jr. |
| TR HL-85-3 | Apr 1985 | Reverification of the Chesapeake Bay Model, by M. A. Granat, L. F. Gulbrandsen and V. R. Pankow |
| TR HL-86-1 | Jan 1986 | Mississippi River Passes Physical Model Study; Report 2, Shoaling and Hydraulic Investigations in Southwest Pass, by H. A. Benson and R. A. Boland, Jr. |

| <u>Number</u> | <u>Date</u> | <u>Title</u> |
|---------------|-------------|--|
| MP HL-81-2 | Jan 1981 | Nanticoke River, Maryland Dye Dispersion Study, Chesapeake Bay Hydraulic Model Investigation, by D. R. Richards, S. R. River, and D. F. Bastian. |
| MP HL-86-7 | Sep 1986 | Estuary Model Test Evaluation, by N. J. Brogdon, Jr. |

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Hydraulic Model Studies
I. A. 3. Harbors

| Number | Date | Title |
|-----------|----------|---|
| TR 2-444 | Apr 1957 | Investigation for Reduction of Maintenance Dredging in Charleston Harbor, South Carolina; Summary Report of Model Investigation |
| | Apr 1957 | Appendix 1 Subsidiary Model Tests |
| | Apr 1957 | Appendix 2 Data Plots |
| | Apr 1957 | Appendix 3 Flow-Pattern Photographs |
| TR 2-580 | | Savannah Harbor Investigation and Model Study: Volume III Results of Model Investigations: |
| | Oct 1961 | Section 1 Model Verification and Results of General Studies |
| | Oct 1961 | Section 2 Tests of Improvement Plans |
| | Nov 1963 | Section 3 Results of Supplemental Tests |
| | Mar 1965 | Section 4 Results of Tests of Increased Channel Dimensions, by H. J. Rhodes H. B. Simmons |
| TR 2-733 | Jul 1986 | Reduction of Shoaling in Charleston Harbor and Navigation Improvement of Cooper River, South Carolina; Hydraulic Model Investigation, by W. H. Bobb and H. B. Simmons |
| TR H-75-4 | | Los Angeles and Long Beach Harbors Model Study |
| | Jun 1975 | Report 1 Prototype Data Acquisition and Observations, by E. B. Pickett, D. L. Durham, and W. H. McAnally, Jr. |
| | Jan 1975 | Report 2 Observations of Ship Mooring and Movement, by L. G. Crosby and D. L. Durham |
| | Jul 1976 | Report 3 Analyses of Wave and Ship Motion Data, by D. L. Durham, J. K. Thompson, D. G. Outlaw, and L. G. Crosby |

| Number | Date | Title |
|-------------|----------|---|
| | Feb 1977 | Report 4 Model Design, by D. G. Outlaw, D. L. Durham, C. E. Chatham, and R. W. Whalin |
| | Feb 1978 | Errata Sheet No. 1 |
| | Sep 1975 | Report 5 Tidal Verification and Base Circulation Tests, by W. H. McAnally, Jr. (includes Appendix A) |
| | Sep 1975 | Appendix B Surface-Current Pattern Mosaics, by W. H. McAnally, Jr. |
| | Aug 1979 | Report 6 Resonant Response of the Modified Phase I Plan, by D. G. Outlaw |
| TR H-78-18 | Nov 1978 | Design for Harbor Entrance Improvements, Wells Harbor, Maine, Hydraulic Model Investigation, by R. R. Bottin, Jr. |
| TR HL-83-13 | | Norfolk Harbor and Channels Deepening Study: |
| | Jun 1983 | Report 1 Physical Model Results; Chesapeake Bay Hydraulic Model Investigation, by D. R. Richards and M. R. Morton |
| | Mar 1985 | Report 2 Sedimentation Investigation; Chesapeake Bay Hydraulic Model Investigation, by R. C. Berger, Jr., S. B. Heltzel, R. F. Athow, Jr., D. R. Richards, and M. J. Trawle (includes Appendix A) |

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Hydraulic Model Studies
I. A. 4. Dredging and Dredged Material Disposal

| Number | Date | Title |
|------------|----------|--|
| TR 2-755 | Jan 1967 | Model Study of Hopper Dredges; Hydraulic Model Investigation, by J. J. Franco |
| TR H-72-5 | Sep 1972 | Plans for Reduction of Shoaling in Brunswick Harbor and Jekyll Creek, Georgia; Hydraulic Model Investigation, by F. A. Herrmann, Jr. and I. C. Tallant |
| TR H-72-8 | Nov 1972 | Disposal of Dredge Spoil; Problem Identification and Assessment and Research Program Development, by M. B. Body et. al. |
| TR H-73-12 | | Houston Ship Channel, Galveston Bay, Texas: |
| | Aug 1973 | Report 1 Hydraulic and Salinity Verification; Hydraulic Model Investigation, by W. H. Bobb, R. A. Boland, Jr., and A. J. Banchetti |
| TR H-75-13 | | Mobile Bay Model Study: |
| | Sep 1975 | Report 1 Effects of Proposed Theodore Ship Channel and Disposal Areas on Tides, Currents, Salinities, and Dye Dispersion, by R. J. Lawing, R. A. Boland, Jr., and W. H. Bobb (includes Appendixes A-B) |
| TR H-78-5 | | Effects of Depth on Dredging Frequency: |
| | May 1978 | Report 1 Survey of District Offices, by M. J. Trawle and J. A. Boyd, Jr. |
| | Jul 1981 | Report 2 Methods of Estuaring Shoaling Analysis, by M. J. Trawle |
| TR HL-84-6 | Jul 1984 | Agitation Dredging: Lessons and Guidelines from Past Projects, by T. W. Richardson (includes Appendixes A-B) |

Hydraulic Model Studies
I. B. 1. Storm Surge Barriers

| Number | Date | Title |
|------------|----------|--|
| Unnumbered | | Model Study of Narragansett Bay: |
| | Feb 1957 | Interim Report Protection of Narragansett Bay from Hurricane Tides; Hydraulic Model Investigation |
| | Jan 1959 | Interim Report 2 Effects of Lower Bay Barriers on Salinities, Shoaling and Pollution in Narragansett Bay; Hydraulic Model Investigation |
| | Sep 1959 | Interim Report 3 Effects of Fox Point Barrier on Water Temperatures |
| | Sep 1959 | Interim Report 4 Effects on Cooling-Water Channel on Temperatures of Cooling Water for Power Stations |
| TR 2-636 | Nov 1963 | Effects on Lake Pontchartrain, Louisiana, of Hurricane Surge Control Structures and Mississippi River-Gulf Outlet Channel; Hydraulic Model Investigation |
| TR 2-662 | Oct 1964 | Protection of Narragansett Bay from Hurricane Surges; Summary Report; Hydraulic Model Investigation, H. B. Simmons |
| TR 2-663 | Oct 1964 | Discharge Characteristics of Hurricane Barriers, Wareham-Marion, Massachusetts; Hydraulic Model Investigation, by E. C. McNair, Jr., and J. L. Grace |
| TR 2-742 | Oct 1966 | Steady-flow Stability Tests of Navigation Opening Structures, Hilo Harbor Tsunami Barrier, Hilo, Hawaii; Hydraulic Model Investigation, by N. R. Oswalt and M. B. Boyd |
| TR 2-754 | Jan 1967 | Effects of Hurricane Barrier on Navigation Conditions in East Passage, Narragansett Bay, Rhode Island; Hydraulic Model Investigation, by J. G. Housley |
| TR H-69-12 | | Galveston Bay Hurricane Surge Study: |

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| Number | Date | Title |
|------------|----------|--|
| | Sep 1969 | Report 1 Effects of Proposed Barriers on Hurricane Surge Heights; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Mar 1973 | Appendix A Calibration Tests; Hydraulic Model Investigation, by R. A. Sager and E. C. McNair, Jr. |
| | Jul 1970 | Report 2 Effects of Proposed Barriers on Tides, Currents, Salinities, and Dye Dispersion for Normal Tide Conditions, by W. H. Bobb and R. A. Boland, Jr. |
| | Jul 1970 | Appendix A Dye Time-Concentration Curves |
| | Mar 1973 | Appendix B Calibration Tests: Hydraulic Model Investigation, by R. A. Sager and E. C. McNair, Jr. |
| | Jul 1970 | Report 3 Effects of Plan 2 Alpha and Plan 2 Gamma Barriers on Tides, Currents, Salinities, and Dye Dispersion for Normal Tide Conditions; Hydraulic Model Investigation, by W. H. Bobb and R. A. Boland, Jr. |
| | Jul 1970 | Appendix A Dye-Time Concentration Curves |
| TR H-76-14 | Sep 1976 | Effects of Hurricane Surge Barrier on Hydraulic Environment, Jamaica Bay, New York; Hydraulic Model Investigation, by R. F. Athow, Jr. |
| TR H-76-16 | Sep 1976 | Hydraulic Characteristics of Rigolets Pass, Louisiana, Hurricane Surge Control Structures; Hydraulic Model Investigation, by R. C. Berger, Jr., and R. A. Boland, Jr. (includes Appendix A) |
| TR HL-82-2 | | Lake Pontchartrain and Vicinity Hurricane Protection Plan: |
| | Jan 1982 | Report 1 Prototype Data Acquisition and Analysis, by D. G. Outlaw (includes Appendixes A-E) |
| | Jun 1982 | Report 2 Physical and Numerical Model Investigation of Control Structures and the |

| <u>Number</u> | <u>Date</u> | <u>Title</u> |
|---------------|-------------|---|
| | | Seabrook Lock; Hydraulic and Mathematical Model Investigation; by H. L. Butler, R. C. Berger, L. L. Daggett, and T. F. Berninghausen |
| | Oct 1983 | Report 3 Numerical Model Investigation of Plan Impact on the Tidal Prism of Lake Pontchartrain, by H. L. Butler (includes Appendixes A-B) |
| MP H-72-1 | Apr 1972 | Physical Model Studies of Proposed Hurricane Surge Protection Schemes, by N. J. Brogdon and F. A. Herrmann, Jr. |

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Hydraulic Model Studies
I. C. 1. Saltwater Intrusion

| Number | Date | Title |
|-------------|----------|---|
| TM 2-310 | Apr 1950 | Salt Water Intrusion, Calcasieu River, Louisiana, and Connecting Waterways; Model Investigation. |
| TR HL-79-18 | Nov 1979 | Carquinez Strait, California, Salinity Barrier Calibration Study; Hydraulic Model Investigation, by R. C. Berger, Jr. (includes Appendixes A-B) |

Hydraulic Model Studies
I. C. 2. Sedimentation

| Number | Date | Title |
|-------------|-----------|--|
| TR HL-82-15 | | The Atchafalaya River Delta: |
| | June 1988 | Report 2 Field Data |
| | | Section 1 Atchafalaya Bay Program Description and Data (2 volumes) by C. J. Coleman, A. M. Teeter, B. P. Donnell, G. M. Fisackerly, D. A. Crouse and J. W. Parman. |
| | Sep 1989 | Section 2 Settling Characteristics of Bay Sediments by A. M. Teeter and W. Pankow. |
| | Jul 1982 | Report 3 Extrapolation of Delta Growth, by J. V. Letter, Jr. |
| | Jan 1984 | Report 4 Generic Analysis of Delta Development, by J. T. Wells, S. J. Chinburg, and J. M. Coleman (includes Appendixes A-B) |
| | Dec 1988 | Report 5 The Atchafalaya River Delta Quasi-Two-Dimensional Model of Delta Growth and Impacts on River Stages, by W. A. Thomas, R. E. Heath, J. P. Stewart and D. G. Clark. |

| <u>Number</u> | <u>Date</u> | <u>Title</u> |
|---------------|-------------|---|
| | Jul 1984 | Report 6 Interim Summary Report of Growth Predictions, by W. H. McAnally, Jr., W. A. Thomas, J. V. Letter, Jr., and J. P. Stewart |
| | Sep 1985 | Report 7 Analytical Analysis of the Development of the Atchafalaya River Delta |
| | Jan 1985 | Report 9 Wind Climatology, by B. A. Ebersole |
| GITI 12 | May 1977 | A Case History of Port Mansfield Channel, Texas, by J. M. Kieslich |

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Hydraulic Model Studies
I. C. 3. Currents, Tides, Dispersion and Flushing

| Number | Date | Title |
|-------------|----------|---|
| TR 2-457 | Jun 1957 | Dispersion of Effluent in Delaware River from New Jersey Zinc Company Plant; Hydraulic Model Investigation |
| TR 2-767 | Apr 1967 | Magic Island Complex, Including Kewalo Basin and Ala Wai Boat Harbor, Honolulu, Oahu, Hawaii; Hydraulic Model Investigation, by C. W. Brasfeild and C. E. Chatham, Jr. |
| TR H-74-11 | Nov 1974 | Tillamook Bay Model Study; Hydraulic Model Investigation, by G. M. Fisackerly |
| TR HL-79-1 | | Newburport Harbor, Massachusetts: |
| | Feb 1979 | Report 1 Design for Wave Protection and Erosion Control, by C. R. Curren and C. E. Chatham, Jr. (includes Appendix A) |
| TR HL-79-12 | | Mayport-Mill Cove Model Study: |
| | Jul 1979 | Report 1 Hydraulic, Salinity, and Shoaling Verification; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Aug 1979 | Report 2 Mayport Naval Basin Study; Hydraulic Model Investigation, by N. J. Brogdon, Jr. |
| | Sep 1979 | Report 3 Mill Cove Study; Hydraulic Model Investigation, by N. J. Brogdon, Jr. and J. W. Parman |
| TR HL-79-15 | Sep 1979 | San Juan National Historic Site, San Juan, Puerto Rico; Design for Prevention of Wave-Induced Erosion; Hydraulic Model Investigation, by R. R. Bottin, Jr. (includes Appendixes A-B) |
| TR HL-81-14 | Dec 1981 | Verification of the Chesapeake Bay Model; Chesapeake Bay Hydraulic Model Investigation, by N. W. Scheffner, L. G. Crosby, D. F. Bastian, A. M. Chambers, and M. A. Granat (includes Appendixes A-D) |

| Number | Date | Title |
|------------|----------|---|
| TR HL-82-3 | Jan 1982 | Low Freshwater Inflow Study; Chesapeake Bay Hydraulic Model Investigation, by D. R. Richards and L. F. Gulbrandsen |
| | Mar 1982 | Errata Sheet No. 1 |
| TR HL-85-3 | Apr 1985 | Reverification of the Chesapeake Bay Model; Chesapeake Bay Hydraulic Model Investigation, by M. A. Granat, L. F. Gulbrandsen, and V. R. Pankow (includes Appendixes A-D) |
| MP 2-812 | Apr 1966 | Flushing Studies, Victoria Channel, Victoria, Texas; Hydraulic Model Investigation, by R. A. Boland |
| MP 2-912 | Sep 1966 | Effects of a Proposed 35-Foot Channel to Richmond on Currents and Salinities Over the Seed Oyster Beds in James River; Hydraulic Model Investigation, by W. H. Bobb, N. J. Brogdon, and H. B. Simmons |
| MP H-69-13 | Dec 1969 | Effects of Proposed Elizabeth River Dike on Tides, Currents, Salinities, and Shoaling; Hydraulic Model Investigation, by R. A. Boland and W. H. Bobb |
| MP H-72-8 | Jun 1972 | Effects of Proposed Extension of Craney Island Disposal Area on Tides, Currents, and Salinities; Hydraulic Model Investigation, by R. A. Boland |
| MP H-76-9 | May 1976 | Effects of 40-Foot Charleston Harbor Project on Tides, Currents, and Salinities; Hydraulic Model Investigation, by H. A. Benson |
| MP H-77-3 | Mar 1977 | Dispersion of Proposed Theodore Industrial Park Effluents in Mobile Bay; Hydraulic Model Investigation, by R. C. Berger, Jr., and M. J. Trawle |
| MP H-78-6 | | Georgetown Harbor, South Carolina: |
| | Feb 1978 | Report 1 Hydraulic, Salinity, and Shoaling Verification; Hydraulic Model Investigation, by M. J. Trawle |
| | May 1979 | Report 2 Effects of Various Channel Schemes on Tides, Currents, and Shoaling; |

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| <u>Number</u> | <u>Date</u> | <u>Title</u> |
|---------------|-------------|---|
| | | Hydraulic Model Investigation, by M. J. Trawle and R. A. Boland, Jr. |
| GITI 13 | Aug 1977 | Hydraulics and Stability of Tidal Inlets, by F. F. Escoffier |
| GITI 15 | Nov 1977 | Physical Model Simulation of the Hydraulics of Masonboro Inlet, North Carolina, R. A. Sager and W. C. Seaberg |
| GITI 16 | Sep 1978 | Hydraulics and Dynamics of North Inlet, South Carolina, 1975-76, D. Nummedal and S. M. Humphries |
| GITI 17 | Feb 1979 | An Evaluation of Movable-Bed Tidal Inlet Models, S. C. Jain and J. F. Kennedy |
| GITI GI 18 | May 1980 | Supplementary Tests of Mosonboro inlet Fixed-Bed Model: Hydraulic Model Investigation, W. C. Seabergh and R. A. Sager |

Numerical Model and Analytical Study
II. A. 1. Hybrid Models

| Number | Date | Title |
|-------------|----------|---|
| TR H-73-16 | Oct 1973 | Enlargement of the Chesapeake and Delaware Canal; Hydraulic and Mathematical Model Investigation, by M. B. Body, W. H. Bobb, C. J. Huvall, and T. C. Hill |
| TR HL-83-16 | | Columbia River Estuary Hybrid Model Studies |
| | Sep 1983 | Report 1 Verification of Hybrid Modeling of the Columbia River Mouth, by W. H. McAnally, Jr., N. J. Brogdon, J. V. Letter, Jr., J. P. Stewart, and W. A. Thomas (includes Appendixes A-C) |
| | Sep 1983 | Report 4 Entrance Channel Tests, by W. H. McAnally Jr., N. J. Brogdon, and J. P. Stewart |
| TR HL-89-14 | Jul 1989 | Verification of the Hydrodynamic and Sediment Transport Hybrid Modeling System for Cumberland Sound and Kings Bay Navigation Channel, Georgia, by M. A. Granat, N. J. Brogdon, J. T. Cartwright and W. H. McAnally, Jr. |
| GITI 19 | Oct 1981 | Tidal Inlet Response to Jetty Construction, Kieslich, J. M. |

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Mathematical Model
II. A. 2. Studies

| Number | Date | Title |
|-------------|----------------------|---|
| TR H-78-22 | Dec 1978 | Numerical Simulation of the Coos Bay-South Slough Complex, by H. L. Butler |
| TR HL-87-1 | Apr 1987 | A Mathematical Study of the Impact on Salinity Intrusion of Deepening the Lower Mississippi River Navigation Channel, by B. H. Johnson, M. B. Boyd and G. H. Keulegan |
| TR HL-87-13 | Sep 1987 | Corpus Christi Inner Harbor Shoaling Investigation, by T. M. Smith, W. H. McAnally Jr. and A. M. Teeter |
| TR HL-88-8 | Apr 1988 | Lower James River Circulation Study, Virginia, Evaluation of Craney Island Enlargement Alternatives, by S. B. Heltzel and M. A. Granat |
| TR HL-88-24 | Sep 1988 | New Haven Harbor Numerical Model Study, by D. R. Richards and J. E. Clausner |
| TR HL-88-25 | Sep 1988 | I-664 Bridge-Tunnel Study, Virginia, Sedimentation and Circulation Investigation, by S. B. Heltzel |
| TR HL-89-3 | Feb 1989 | Effects of Cooper Rediversion Flows on Shoaling Conditions at Charleston Harbor, Charleston, South Carolina, by A. M. Teeter |
| TR HL-89-12 | Jun 1989 | Newport News Channel Deepening Study, Virginia; Numerical Model Investigation, by H. J. Lin and W. D. Martin |
| MP HL-87-2 | Jun 1987 Sep 1988 | A Numerical Model Analysis of Mississippi River Passes Navigation Channel Improvements, by D. R. Richards, et al (in four reports) |
| GITI 6 | Jun 1977 | Comparison of Numerical and Physical Hydraulic Models, Masonboro Inlet, North Carolina, Main text and Appendixes 1-4, D. L. Harris and B. R. Bodine |
| | Jun 1977 | Appendix 1 Fixed-Bed Hydraulic Model Results, R. A. Sager and W. C. Seabergh |
| | Jun 1977 | Appendix 2 Numerical Simulation of Hydrodynamics (WRE), F. D. Masch, |

| <u>Number</u> | <u>Date</u> | <u>Title</u> |
|---------------|-------------|---|
| | | R. J. Brandes and J. D. Reagan (in 2 Volumes) |
| | Jun 1977 | Appendix 3 Numerical Simulation of Hydrodynamics (Tractor), R. J. Chen and L. A. Hembree, Jr. |
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| TR CERC-83-2 | Sep 1983 | Mathematical Modeling of Three-Dimensional Coastal Currents and Sediment Dispersion: Model Development and Application, Y. P. Sheng |

II. A. 3. Ship Simulation Studies

| <u>Number</u> | <u>Date</u> | <u>Title</u> |
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| TR HL-85-4 | Jun 1985 | Ship Simulation Study of John F. Baldwin (Phase II) Navigation Channel, San Francisco Bay, California, by C. Huval, B. Comes, and R. T. Garner III. |
| TR HL-87-5 | May 1987 | Ship Navigation Simulator Study; Savannah Harbor Widening Project, Savannah, Georgia, by J. C. Hewlett, L. L. Daggett and S. B. Heltzel |

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Hurricane Studies
II. B. 1. Storm Surge Height

| Number | Date | Title |
|-------------------------------------|----------|--|
| TR HL-79-2 | Feb 1979 | A Numerical Model for Tsunami Inundation, by J. R. Houston and H. L. Butler (includes Appendix A) |
| TR H-77-17 | Sep 1977 | Nearshore Numerical Storm Surge and Tidal Simulation, by J. J. Wanstrath |
| TR HL-82-15 | Jan 1985 | Report 8 Numerical Modeling of Hurricane-Induced Storm surge, by B. A. Ebersole |
| TR 76-3 | Nov 1976 | "Theory and Application," Storm Surge Simulation in Transformed Coordinates, Wanstrath, J. J., et. al. |
| | Nov 1976 | "Program Documentation," Storm Surge Simulation in Transformed Coordinates, Wanstrath, J. J. |
| TR HL-80-18 | Sep 1980 | Type 19 Flood Insurance Study: Tsunami Predictions for Southern California, by J. R. Houston (includes Appendixes A-B) |
| CTH Technical Bulletin No. 21 | Dec 1980 | Evaluation of Numerical Storm Surge Models |

Hydrodynamic Simulations
II. C. 1. Salt Water Intrusion

| Number | Date | Title |
|-----------------------------|------|---|
| WES Video File No. 88153 | 1988 | Video Report - "Saltwater Intrusion Demonstration" by N. J. Brogdon, et al. |

II. C. 2. Sedimentation Simulation

| Number | Date | Title |
|------------|----------|---|
| TR 82-4 | Oct 1982 | Performance of a Sand Trap Structure and Effects of Impounded Sediments, Channel Islands Harbor, California, R. D. Hobson |
| TR HL-85-5 | Sep 85 | Spectral Analysis of River Columbia Estuary Currents, B. P. Donnell and W. H. McAnally, Jr. |
| GITI 5 | Feb 1976 | Notes on Tidal Inlets on Sandy Shores, M. P. O'Brien |
| GITI 12 | May 1977 | A Case History of Port Mansfield Channel, Texas, J. M. Kieslich |

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II. C. 3. Currents, Tides, Dispersion and Flushing

| Number | Date | Title |
|--------------|----------|--|
| TR H-69-9 | Jun 1969 | Theoretics in Design of the Proposed Crescent City Harbor Tsunami Model, by G. H. Keulegan, J. Harrison, and M. J. Mathews |
| TR H-78-11 | Jun 1978 | Numerical Simulation of Tidal Hydrodynamics, Great Egg Harbor and Corson Inlets, New Jersey, by H. L. Butler (includes Appendixes A-E; Appendix E is on microfiche only) |
| TR HL-80-3 | | Erosion Control of Scour During Construction: |
| | Sep 1984 | Report 6 FINITE - A Numerical Model for Combined Refraction and Diffraction of Waves, by J. R. Houston and L. W. Chou (includes Appendix A) |
| | Sep 1984 | Report 7 CURRENT - A Wave-Induced Current Model, by S. R. Vemulakonda (includes Appendix A) |
| TR CERC-84-2 | Apr 1984 | Numerical Simulation of Oregon Inlet Control Structures, Effects on Storm and Tide Elevations in Pamlico Sound, D. L. Leenknecht, J. A. Earickson, and H. L. Butler |
| GITI 14 | Nov 1977 | A Spatially Integrated Numerical Model of Inlet Hydraulics, W. N. Seelig, D. L. Harris and B. E. Herchenrodeer |
| SR 7 | Feb 1981 | Tides and Tidal Datums in the United States, D. L. Harris. (GPO Stock No. 008-022-00161-1) |

Dredging Related Studies
II. D. 1. Dredged Material Disposal

| Number | Date | Title |
|-------------|----------|---|
| TR HL-87-12 | Sep 1987 | Technical Supplement to Dredged Material Disposal Study US Navy Home Port, Everett Washington, by S. A. Adamec, Jr., B. H. Johnson, A. M. Teeter and M. J. Trawle |
| TR HL-88-27 | Nov 1988 | San Francisco Bay: Modeling System for Dredged Material Disposal and Hydraulic Transport, by V. R. Pankow |
| TR HL-89-11 | May 1989 | Deposition and Erosion Testing on the Composite Dredged Material Sediment Sample from New Bedford Harbor, Massachusetts, by A. M. Teeter and W. Pankow. |
| MP HL-86-1 | Mar 1986 | Alcatraz Disposal Site Investigation, Report 1, by M. J. Trawle and B. H. Johnson |
| MP HL-86-1 | Oct 1986 | Report 2, North Zone Disposal of Oakland Outer Harbor and Richmond Inner Harbor Sediments, by M. J. Trawle |
| MP HL-86-1 | May 1987 | Report 3, San Francisco Bay - Alcatraz Disposal Site Erodibility, by A. M. Teeter |
| MP HL-86-5 | Aug 1986 | Puget Sound Generic Dredged Material Disposal Alternatives, by M. J. Trawle and B. H. Johnson |
| TR EL-88-15 | Dec 1988 | New Bedford Harbor Superfund Project, Report 2, Sediment and Contaminant Hydraulic Transport Investigations, by A. M. Teeter |